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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/655,352	09/05/2003	Yukio Koyanagi	22040-00019-US	7027
30678	7590	09/05/2006	EXAMINER	
CONNOLLY BOVE LODGE & HUTZ LLP			NGUYEN, KHAI M	
P.O. BOX 2207				
WILMINGTON, DE 19899-2207			ART UNIT	PAPER NUMBER
			2819	

DATE MAILED: 09/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/655,352

Applicant(s)

KOYANAGI, YUKIO

Examiner

Khai M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-106 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-23, 30-41, 48, 66-76, 81-90, 101, 103-105, and 106 is/are allowed.
- 6) ☒ Claim(s) 1-2, 4-5, 7-8, 24-25, 42-47, 49, 65, 91-100 is/are rejected.
- 7) ☒ Claim(s) 3, 6, 26-29, 50-64, 77-80 and 102 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9/5/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/5/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. An initiated copy of the information disclosure statement (IDS) submitted on 9/5/2003 is attached herewith.

Specification

3. The application has not been checked to the extent necessary to determine the presence of all possible typographical and grammatical errors. However, Applicant's cooperation is requested in correcting any errors of which he/she may become aware in the application.
4. Reference to claims in the specification is improper, e.g. note pages 14, 15, 27, 29, 30, 31...

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-2, 4-5, and 7 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 6,973,468. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1-2, 4-5, and 7 are anticipated by claims 1-13 of the '468 patent (see and compare these claims).

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 42-47 and 91-100 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. These claims are directed to computer programs. Computer programs per se are not directed to one of the statutory categories of invention. Computer programs per se are not structure and are not method (e.g. acts). A computer program needs to be claimed on a computer readable medium in order to be directed to a statutory category of invention (i.e. product).

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4-5, 7-8, 24-25, 49, and 65 are rejected under 35 U.S.C. 102(b) as being anticipated by Koyanagi (US 6,515,608).

Regarding claim 1-2, 4-5, and 7, Koyanagi's Figs. 1-2 show a device including delay circuits of several stages (D flip-flop circuits) connected in series (i.e., cascade connection) for sequentially delaying each data sampling data inputted therein in sequence and a multiplying/adding circuit (circuits 2, 8 and 9) with digital basic function illustrated in Figs. 3-4.

Regarding claims 8, 24, 49, & 65, Koyanagi's Figs. 1-2 show a device readable by a computer including sampling or thinned-out data is sequentially inputted (to the D flip-flops) and then weighted addition is performed (by multiplying/adding sections or circuits 2, 8, and 9) according to a digital basic function illustrated in Figs. 3-4 (as compared to the digital basic function of the applicant's disclosure illustrated in Fig. 4).

Regarding claim 25, Koyanagi's Fig. 3 shows the digital basic function having a data value changing from -1, 1, 8, 8, 1, and -1 on each clock (CLK1) (as compared to the digital basic function of the applicant's disclosure illustrated in Fig. 4).

Prior Art

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure (see references cited on PTO-892 Form attached herewith).

Allowable Subject Matter

9. Claims 3, 6, 26-29, 50-64, 77-80, and 102 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Claims 9-23, 30-41, 48, 66-76, 81-90, 101, 103-105, and 106 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: for claims 3, 6, 26-29, 50-64, 77-80, and 102, the references of record neither reveal nor render obvious the recited limitations including first, second, and third multiplying/adding circuits of claims 3 and 6, or the digital basic function of claim 26, or the sampling operations of claims 26-29, or decompression device of claims 50-51, 57-59, 63, and 77 that coupled to receive thinned-out data produced by the respective compression device.

For claims 9-14, 48, 66-69, and 101, the references of record neither reveal nor render obvious the recited limitations including the sampling point detecting means and the compression data producing means of claim 9.

For claims 15-18, 70-71, and 73, the references of record neither reveal nor render obvious the recited limitations including the replacing means for replacing sampling data with zero data.

For claims 19-21, 72, and 74, the references of record neither reveal nor render obvious the recited limitations including the rounding means for rounding a lower-order bit of the produced thinned-out data.

For claims 22 and 75, the references of record neither reveal nor render obvious the recited limitations including the replacing means for replacing sampling data with zero data and rounding means for performing a rounding operation on the sampling data.

For claims 23 and 76, the references of record neither reveal nor render obvious the recited limitations including the rounding means for performing a rounding operation and zero compression means for performing a zero compression process with respect to the sampling data outputted from the rounding means.

For claims 30-32 and 81-83, the references of record neither reveal nor render obvious the recited limitations including the step of determining a sampling point using the produced thinned-out data, in which a sample point, where a difference value between each data value on a straight line connecting two thinned-out data and a thinned-out data value on the sampling point as that of the data value on the straight line is equal to or smaller than a predetermined value, is detected as the sampling point.

For claims 33-36, 84-85, and 87, the references of record neither reveal nor render obvious the recited limitations including steps of replacing sampling data with zero data and performing weighted addition with respect to the successive sampling data subjected to the data replacement process.

For claims 37-39, 86, and 88, the references of record neither reveal nor render obvious the recited limitations including steps of performing weighted addition with respect to the sampling data successively inputted as a target compression and rounding a lower-order bit of the thinned-out data produced by the weighted addition.

For claims 40 and 89, the references of record neither reveal nor render obvious the recited limitations including steps of rounding a lower-order bit of the sampling data subjected to the data replacement process and performing a zero compression process with respect to the sampling data subjected to the rounding operation.

For claims 41 and 90, the references of record neither reveal nor render obvious the recited limitations including steps of rounding a lower-order bit of the discrete sampling data successively inputted and performing a zero compressing process with respect to the sampling data subjected to the rounding operation.

For claims 103-106, the references of record neither reveal nor render obvious the recited limitations including the decompression part that coupled to the compression part for receiving the thinned-out data and performing a decompression process on the thinned-out data.

Contact Information

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khai M. Nguyen whose telephone number is 571-272-1809. The examiner can normally be reached on 9:00 - 5:30 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rexford (Rex) Barnie can be reached on 571-272-7492. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Nguyen Khai', followed by a long horizontal flourish.

Khai M. Nguyen
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571-272-1809